

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		138FM04A		
PRESSURE TRANSDUCER, FEEDWATER, ITEM 138 ----- SV767793-6 (1)	2/1R	External water leakage. Housing seal failure.	END ITEM: Water leakage to ambient when 137 feedwater valve is open.	A. Design - -2 and -6 Conrac and -8 Gulton: The external leak path for the primary pressure sensor is through a static radial O-seal. The seal groove configuration and rigidness of assembly provide squeeze under all tolerance and environmental conditions. The temperature and pressure are not extreme (32 deg. F to 120 deg. F and 20 psid max. respectively).
PRESSURE TRANSDUCER, FEEDWATER, ITEM 138 ----- SV767793-8 (1)			GFE INTERFACE: Depletion of the water reservoir. Loss of cooling/ defog. MISSION: Terminate EVA when the water supply drops below CWS limits. CREW/VEHICLE: None for single failure. Possible loss of crewman with loss of SOP. TIME TO EFFECT /ACTIONS: Minutes. If there is insufficient water for cooling/ defog, open purge valve to activate the SOP. TIME AVAILABLE: Minutes. TIME REQUIRED: Seconds.	B. Test - Component Acceptance Test - Conrac and Gulton: The Feedwater pressure sensor is subjected to acceptance testing prior to shipment by the assembly vendor. This testing includes the following tests which insure there is no external leak path at the sensor port: Proof pressure testing to a pressure of 24 psia for one minute using fixture which simulates the sensor installation in the PLSS. Calibration check of sensor to 16 psia, using a fixture which simulates the sensory installation. PDA Test - The feedwater pressure sensor undergoes proof, leakage and performance testing per SEMU-60-010 after installation on the PLSS. Certification Test - Certified for a useful life of 20 years (Ref. EMUM1-0084). C. Inspection - The sensor port configuration is visually and dimensionally inspected to B/P requirements to insure there will not be any leakage paths. D. Failure History - None. E. Ground Turnaround - None. F. Operational Use - Crew Response - EVA: When CWS data confirms activation of reserve water tank, terminate EVA. Training - Standard EMU training covers this failure mode. Operational Considerations - Flight rules require termination of EVA when minimum primary consumables remain. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
--------------------	------	-----------------------------	----------------	--------------------------

138FM04A

REDUNDANCY
SCREENS:
A-PASS
B-PASS
C-PASS

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-138 FEEDWATER PRESSURE SENSOR
CRITICAL ITEM LIST (CIL)
EMU CONTRACT NO. NAS 9-97150

Prepared by: *J. Ramon Jr.*
HS - Project Engineering

Approved by: *LMB*
~~NASA - SSA/SSM~~
CS

M. Snyder
HS - Reliability

Bill [unclear]
~~NASA - SSA/SSM~~

R. Mumford 4/24/02
HS - Engineering Manager

[unclear]
~~NASA - MA~~

[unclear]
NASA - MOD

[unclear]
NASA - Crew

[unclear]
NASA - Program Manager